

Message Text

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NIAMEY FOR DR. ARTHUR N. COX, LOS ALAMOS SCIENTIFIC LAB

PARIS FOR EDGAR PIRET, SCI ATTACHE

DEPT FOR RONALD LA COANT ECLIPSE COORDINATOR

ABOARD THE FRENCH CONCORDE 001 DR. DONALD LIEBENBERG, LOS ALAMOS SCIENTIFIC LAB OF THE UNIVERSITY OF CALIFORNIA, COMPLETED USEFUL OBSERVATION OF THE SOLAR CORONA DURING THE TOTAL SOLAR ECLIPSE FOR A RECORD 74 MINUTES. ONE OF SEVEN FRENCH, BRITISH AND AMERICAN SCIENTISTS, DR. LIEBENBERG REPORTED VIEWING THE ECLIPSE AGAINST AN ESPECIALLY DARK SKY AT 55,000 FT. ACROSS AFRICA AS THE CONCORDE FLEW IN THE ECLIPSE SHADOW OVER MAURITANIA, MALI, NIGER AND CHAD LANDING AT FORT LAMY, CHAD. THIS FLIGHT PROVIDED MAN'S LONGEST LOOK AT A TOTAL SOLAR ECLIPSE.

DR. LIEBENBERG'S OBSERVATIONS OF THE SPECTRAL QUALITY OF THE CORONA TO DETERMINE THE TEMPERATURE AND DENSITY OF MATERIAL IN THE SOLAR CORONA PERFORMED WELL. WHILE GUIDANCE PROBLEMS EXISTED THE SCIENTIFIC OBJECTIVES WERE MET WITH THE CONCORDE STABILIZED FLIGHT. THE RESEARCH SUPPORTED BY THE USAEC, THE USNSF AND THE FRENCH DELEGATION GENERAL RESEARCH SCIENTIFIC WILL PROVIDE NEW INFORMATION ABOUT THE CHARACTER AND HEATING OF THE SOLAR CORONA. THE CORONA IS A TENUOUS PLASMA

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THAT IS THE SOURCE OF THE SOLAR WIND AND THE MEDIANIMS THAT KEEP IT

AT ABOUT 2

MILLION DEGREES TEMPERATURE ARE NOT WELL UNDERSTOOD. WITH THE LONG 74 MINUTE TOTALITY DURATION ABOARD THE CONCORDE, DR. LIEBENBERG WAS ABLE TO MAKE OBSERVATIONS OF POSSIBLE PERIODIC CHANGES IN THE CORONA THAT CAN BE RELATED TO THE HEATING MECHANISMS. THE PERIODIC VARIATIONS MAY BE DUE TO WAVE MOTIONS IN THE CORONAL PLASMA GENERATED BY LOWER LAYERS OF VISIBLE SUN.

OTHER EXPERIMENTS TO VIEW THE CORONA AND THE SOLAR DISK IN THE FAR INFRA RED BY FRENCH AND BRITISH TEAMS WERE SUCCESSFUL. MR. ANDRE TURCAT, THE PILOT OF THE AEROSHIP HAD A DIFFICULT JOB TO KEEP THE CONCORDE IN THE SHADOW OF TOTALITY AND PERFORMED THAT JOB EXTREMELY WELL. THE GENERAL COORDINATOR OF THE SCIENTIFIC OBSERVERS WAS DR. P. CHARVIN.

IN ADDITION TO THE SCIENTIFIC OPERATIONS, DR. LIEBENBERG NOTED THE EXTREME DARKNESS OF THE SKY AT THE HIGH ALTITUDE. THIS WAS THE NINTH SOLAR ECLIPSE HE HAS OBSERVED SCIENTIFICALLY AND THE DURATION PROVIDED ON THE CONCORDE WAS MORE THAN TWICE AS LARGE AS ALL THE OTHER TOTALITY TIMES COMBINED. BUT THE MOST INTERESTING FEATURE OF THIS ECLIPSE WAS THE BRILLIANCE OF THE CORONA AGAINST THE DARK SKY. "THE CORONA STOOD OUT LIKE A CAMIO", DR. LIEBENBERG REMARKED. THE GRADUAL APPEARANCE OF THE LOWER SOLAR ATMOSPHERE AS THE ECLIPSE ENDED IS A SIGHT TO BE REMEMBERED AND THE FIRST SUCH OPPORTUNITY TO SEE THESE LOWER LAYERS SO CLEARLY.

D. H. LIEBENBERG.MUCLAHY

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